State of Louisiana
Department of Transportation and Development (DOTD)
Materials and Testing Section Qualification Procedure
for

EPOXY COATINGS FOR REINFORCING BARS

MATERIAL SPECIFICATION REFERENCE:

DOTD Standard Specifications, Supplemental Specifications and Special Provisions, Subsection 1009.01 (e) (copy attached)

PRELIMINARY REQUIREMENTS:

Approved Materials Evaluation Form

The manufacturer shall submit a standard "Approved Materials Evaluation Form" to the DOTD Materials and Testing Section Coordinator listed below, along with a letter requesting evaluation for the Approved Materials List.

General Information

Include all pertinent information relative to the material to be evaluated, including, but not limited to, manufacturer's specifications and typical analysis and Safety Data Sheet (SDS).

Certification and/or Test Reports

Certified Test Reports shall be submitted showing conformance with all the requirements of AASHTO M 284 for "Standard Specification for Epoxy-Coated Steel Reinforcing Bars." Include with the Certified Test Report an infrared spectrophotometric analysis and a complete generic description of the epoxy powder and patching material.

All reinforcing steel to be epoxy coated shall be coated in a plant certified by the Concrete Reinforcing Steel Institute (CRSI) as a fusion bonded epoxy applicator.

Samples (to be furnished at no cost to the Department)

Submit at least four coated No. 6 x 4 ft. (No. 19 x 1.25 m) Grade 60 bars, one uncoated No. 6 x 4 ft. (No. 19 x 1.25 m) Grade 60 bar, four Taber test panels 4" x 4" x 0.05" (102 mm x 102 mm x 1.3 mm) coated with 10 ± 2 mills (0.254 ± 0.51 mm) of epoxy, and at least 8 oz. (237 mL) of epoxy powder and patching material.

TEST REQUIREMENTS:

Laboratory Testing

The qualification samples will be tested by the Materials and Testing Section in accordance with the test procedures shown in AASHTO M 284 for thickness of coating, adhesion and flexibility of coatings, continuity, impact, chemical resistance, and taber abrasion resistance. An infrared spectrophotometric analysis will also be conducted on the epoxy powder and patching material.

Evaluation Time

Laboratory testing - 3 months

GENERAL:

Upon completion of the evaluation, the submitter will be notified in writing concerning the results of the evaluation and whether the material will or will not be added to the Approved Materials List.

Once a material has been prequalified, it is the manufacturer's or applicator's responsibility to conduct certain minimum quality control tests on epoxy coated bars intended for use on state projects as follows:

(1) Film Thickness: At least one bar representing each set of 10 coated bars shall be checked for film thickness in accordance with ASTM G12 and the added provisions of AASHTO M 284.

(2) Continuity of Coating: All bars shall be checked visually and with an in-line 67 ½ volt Holiday detector after curing for continuity of coating.

(3) Adhesion and Flexibility of Coating: Adhesion and flexibility of the epoxy coating shall be evaluated by conducting bend tests on at least one bar of each size from the total bars coated with a batch or lot of powdered epoxy resin or from the total bars coated per day, whichever results in the greater number of tests. The Department must be notified in writing of any change in material formulation. Significant changes may require reevaluation of the material.

PROJECT ACCEPTANCE REQUIREMENTS:

Inclusion of your product on the Approved Materials List is not blanket approval for its use.

All products, regardless of prior approval, shall be sampled in accordance with the Materials Sampling Manual

DISQUALIFICATION:

Any material may be removed from the Approved Materials List for non-conformance with specifications for performance requirements. The Department must be notified in writing of any change in product formulation. Significant changes may require reevaluation of the material.

REQUALIFICATION:

A material which has been disqualified and removed from the Approved Materials List will be considered for reevaluation only after submission of a formal request along with acceptable evidence that the problems causing the disqualification have been resolved.

DOTD MATERIALS AND TESTING SECTION COORDINATOR

Khiet H. Ngo, P.E.
Physical Test Engineer
DOTD Materials and Testing Section
5080 Florida Boulevard
Baton Rouge, Louisiana 70806
(225) 248-4134
Khiet.Ngo@la.gov

Approved 2-05-15

CHRIS ABADIE, P.E.
MATERIALS ENGINEER ADMINISTRATOR